Technical Support Document
Air Quality Construction Permit
Permit No. SYN-LDF-5577738024-2014-01

This document sets forth the legal and factual basis for permit conditions, with references to applicable statutory and regulatory provisions, including provisions under the federal tribal New Source Review (NSR) program, 40 C.F.R. §§ 49.151 – 49.161.

1. GENERAL INFORMATION

a. Applicant and Stationary Source Information

Owner and Address	Pitlik & Wick, Inc. 8075 County Highway D Eagle River, Wisconsin 54521
Facility Name and Address	Highway D Aggregate Source 2975 County Road D Lac du Flambeau, Wisconsin 54548 Clear Lake Aggregate Source Highway 70 West Lac du Flambeau, Wisconsin
County	Vilas
Reservation	Lac du Flambeau
SIC Code	1442, Construction Sand and Gravel
NAICS Code	212321, Construction Sand and Gravel Mining

b. Contact Information

Facility Contact: Carolyn Lurvey
Phone: (715) 479-7488
Fax: (715) 479-7438

c. Facility Description

Pitlik & Wick, Inc. (P & W) holds a permit issued by the Wisconsin Department of Natural Resources (WDNR) for operations of its portable crushing facility on state land, but the portable crushing facility is a new source for purposes of its operations within the exterior boundaries of the Lac du Flambeau Band of Chippewa Indians' Reservation.

The facility is composed of a portable crushing plant, transfer points, and storage piles. The facility operates one diesel fired internal combustion engine (ICE). The facility is below major source thresholds under NSR.

d. Emission Units and Process Description

The facility currently operates the following emission units:

- Portable crushing plant consisting of primary, secondary, tertiary crushers, conveyors, transfer points, storage bins, screens and screening operations.
- Material load in and load out from plant consisting of truck traffic and loaders over unpaved roadways.
- One ICE 600 horsepower or greater

e. Area Classification

P & W's operating locations are within the exterior boundary of the Lac du Flambeau reservation. The EPA is responsible for issuing and enforcing any air quality permits for sources on the reservation unless and until Lac du Flambeau Band (LDF or Band) has EPA approval to do so.

The facility is located in Vilas County which is designated attainment with National Ambient Air Quality Standards for all criteria pollutants.

There are no mandatory Prevention of Significant Deterioration (PSD) Class I areas within 100 kilometers of P & W's proposed locations on the LDF reservation. Additionally, this permit action is not considered "major" for PSD. Therefore, consultation with federal land managers is not required.

2. PROJECT DESCRIPTION

a. Description of Permit Action

P & W proposes to construct and operate a portable nonmetallic mineral processing plant on the LDF reservation. The plant's crushing operations will be powered with distillate fuel fired generators or electrical power. The crushing operation consists of a primary crusher, secondary and tertiary crushers, screens or screen plant, and several conveyors. The facility has operated as a portable minor facility under PSD and as a synthetic minor under Title V, pursuant to the permit issued by WDNR for the facility's operations outside the boundaries of the LDF reservation.

The P & W portable crusher includes a loader which excavates earthen/aggregate materials from a gravel pit or earthen bank, or from stockpiled materials that may be hauled in by truck. The material is fed through the Grizzly into the primary crusher by feed loader. The Grizzly removes any large boulders which may be present. From the primary crusher the material is deposited into a surge bin where it is then conveyed to the second stage. At the second stage, the material passes through a screen deck. Some of the through material from the screen deck can be pulled out of the stream at this point if necessary, otherwise through material continues on to the

tertiary stage. Oversized material from the screen deck enters the secondary crusher, then continues to the tertiary stage. At the tertiary stage, material is again passed through a screen deck. Through material can be pulled out of the stream at this point or conveyed to the final product conveyor. Oversized material from the screen deck is fed into the tertiary crusher. Material from the tertiary crusher is re-circulated back through the tertiary stage until all material is bypassed to the final product conveyor. Material is moved via conveyors between stages and to the final stockpiles.

P & W will also use a small diesel generator of less than 25 horsepower to keep the crusher warm and prevent freezing and malfunction during cooler temperatures. Since the generator has a manufacturer's site rating of less than 50 horsepower, it is exempt from permitting under 40 C.F.R. § 49.153(c)(10).

P & W has requested production limitation to keep the facility below major source status for NSR. In its application, P & W requested a production rate limitation of 800 tons/hour and 100,000 tons during any 12 consecutive calendar month period. P & W will operate for no more than 16 hours a day, 6 days a week for up to 60 days during any 12 consecutive calendar month period.

P & W has also requested a fuel usage limitation of 1,667 gallons of fuel per day and 20,000 gallons of fuel per year to keep the facility below major source status for NSR. Although the fuel usage limitation would enable the facility to have the ability to operate 23 hours per day and more than 285 days per year, P & W will operate no more than 16 hours a day, 6 days a week for up to 60 days during any 12 consecutive calendar month period, which is an enforceable limitation.

Based on the information submitted by P & W in its permit application, this permit authorizes the following:

i. Construction of a portable crushing plant consisting of primary, secondary, tertiary crushers, conveyors, transfer points, storage bins, screens and screening operations, material load in and load out, and one diesel fired ICE.

ii. Operation of the portable crushing plant and material loading of up to 16 hours a day, 6 days a week for up to 60 days during any 12 consecutive calendar month period, with a maximum production limit of 800 tons/hour and up to 100,000 tons during any 12 consecutive calendar month period.

iii. Operation of the diesel-fired ICE with a maximum fuel usage of 1,667 gallons of fuel per day and 20,000 gallons of fuel per year.

The synthetic minor construction permit being considered in this permit action is the first federally-enforceable air permit being issued to the facility for operation within the exterior boundaries of the LDF reservation.

b. Emission Factors and Total Potential to Emit Before Limits

Emission factors used to calculate the potential to emit (PTE) pollutants were primarily taken from AP-42, Fifth Edition, Volume I, in sections relating to Crushed Stone Processing, Large Stationary Diesel and All Stationary Dual-fired Engines, and Gasoline and Diesel Industrial Engines.

Emission factors were not available in AP-42 for certain processes. For these processes, guidance issued by WDNR entitled "Nonmetallic Mining Air Emission Guidance for the Development of the 1998 Air Emissions Inventory" was used. The guidance is available at http://dnr.wi.gov/files/PDF/pubs/am/AM268.pdf

The unrestricted PTE of the total facility is given in the following table.

Emissions in tons per year (TPY)	CO	NOx	SO_2	PM	PM_{10}	$PM_{2.5}$	Lead	VOC	CO_2e
Portable Crushing Facility (P10)	0	0	0	135.6	53.7	53.7	0	0	0
Material Loading (P11)	0	0	0	4.9	4.9	.49	0	0	0
ICE >600 hp (P12)	35.5	134.5	0.04	4.2	4.2	4.2	0	3.8	6898.5

This project is not a major source because the unrestricted increase in PTE of all pollutants is below the major source threshold, as defined in 40 C.F.R. § 52.21. The unrestricted PTE for the facility assumes 8,760 hours of operation per year.

c. Potential to Emit After Federally-Enforceable Limits

The PTE of the facility after permit issuance takes into account federally-enforceable limits, such as material throughput restrictions. The facility is also electing to limit the number of hours the crushing plant may operate in any day and any 12 consecutive month period. The facility has also elected to limit the amount of fuel used in the diesel ICE in any 12 consecutive month period. Based on these federally-enforceable limitations, the PTE of the facility, in tons per year, is given in the table below.

Emissions in TPY	CO	NOx	SO_2	PM	PM_{10}	$PM_{2.5}$	Lead	VOC	CO_2e
Portable Crushing Facility (P10)	0	0	0	0.25	0.112	0.112	0	0	0
Material Loading (P11)	0	0	0	4.9	4.9	.49	0	0	0
ICE >600 hp (P12)	1.2	4.4	0.002	0.1	0.1	0.1	0	0.1	225
Total	1.2	4.4	0.002	5.25	5.11	0.7	0	0.1	225

d. Enforcement Issues

There are no active enforcement matters against P & W.

e. Pollution Control Equipment

The facility will utilize a water spray bar system on the crushing plant to control fugitive dust emissions. Moisture content typically present in Wisconsin earthen materials also significantly aids in keeping fugitive emissions controlled.

The facility will follow a fugitive dust control plan to minimize dust emissions from site roadways, plant, storage piles, and truck traffic. The fugitive dust control plan is included as Attachment A of the permit.

3. APPLICABLE REQUIREMENTS

a. Prevention of Significant Deterioration (PSD)

This source is not currently subject to the requirements of 40 C.F.R. § 52.21 based on its potential to emit and the definition of "major source" in 40 C.F.R. § 52.21. According to manufacturer emission data provided within the permit application, the highest potential emissions of a PSD pollutant from the uncontrolled diesel fired ICE is 134.5 TPY for NO_x, which is below the major source threshold for a criteria pollutant for this type of source, and therefore does not constitute a major stationary source.

b. Restrictions on Potential to Emit

"Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any state or federal physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is enforceable as a practical matter. See 40 C.F.R. § 52.21. In this case, since the PTE of the crushing facility and generator are less than significance thresholds, restrictions on PTE are not necessary to avoid PSD permitting. The facility has elected to take enforceable limitations to keep the emissions from the entire facility below 100 TPY for all criteria pollutants to avoid applicability to 40 C.F.R. Part 71.

c. 40 C.F.R. §§ 49.151-161: Federal Minor New Source Review Program in Indian Country

40 C.F.R. § 49.152(d) defines a true minor source as, among other things, a source that has the potential to emit regulated NSR pollutants in amounts that are less than the major source thresholds of 40 C.F.R. § 52.21 but equal to or greater than the minor NSR thresholds in 40 C.F.R. § 49.153. As explained above, the facility does not have the potential to emit any regulated NSR, or criteria, pollutant in amounts exceeding the major source threshold.

d. 40 C.F.R. 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants

i. §60.670 applies because the equipment at the portable crushing facility is because they are listed as affected facilities as listed in §60.670(a)(1).

ii. §60.672(b) applies because the facility does not operate a capture system for emissions.

iii. §60.672(d) applies because truck dumping of nonmetallic materials occurs on site.

iv. §60.674(b) applies because the Permittee operates a water spray bar system on the crushing facility.

v. §60.675(c)(1) and (3) apply because the Permittee is subject to particulate matter standards.

vi. §60.676(f) and (h) apply because the Permittee must conduct performance testing.

e. Endangered Species Act (ESA)

Section 7 of the ESA requires the EPA, as a federal agency, to use its authority to conserve listed endangered and threatened species. To support this requirement, section 7(a)(2) of the ESA requires EPA to ensure that an agency action, such as the issuance of air permits, is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat for such species. In order to demonstrate whether an agency action will affect endangered or threatened species or critical habitat, EPA must determine whether species or critical habitat is present in the action area, whether authorized activities within the action area will affect species or critical habitat, and whether the effect, if any, will have an adverse effect on species or critical habitat. If an agency action may adversely affect a species or critical habitat, further consultation may be required.

Based on the October 2013 County Distribution of Federally-Listed Endangered, Threatened, Proposed, and Candidate Species for Wisconsin, Vilas County the Canada lynx is classified as threatened and the Kirtland's warbler is classified as endangered. The Canada lynx was listed as threatened on March 24, 2000. The Kirtland's warbler was first listed as endangered on March 11, 1967.

This permit authorizes the construction of a portable crushing plant, associated material loading and one ICE and establishes federally-enforceable operating limitations at the facility. After issuance of this permit, federally-enforceable

operating limits will limit the facility's potential to emit CO, NOx, SO_2, PM, PM_{10}, $PM_{2.5}$, and VOC.

The Canada lynx is protected under the ESA as a threatened species. Decline in lynx population have been attributed to trapping and timber harvests that removed, changed and fragmented its habitat. Though the Canada lynx has been listed as threatened in Vilas County, Wisconsin, there are no known resident populations in the area. For these reasons, the issuance of this permit will have "no effect" on the Canada lynx or its critical habitat.

The Kirtland's warbler is an endangered species because populations have been affected by the loss of its habitat, mainly jack pine forests. Though Kirtland's warbler populations are known to reside in Wisconsin, they have not been found in Vilas County. The facility is a minor PSD source and the endangered species is not found near the facility. For these reasons, the issuance of this permit will have "no effect" on the Canada lynx or the Kirtland's warbler or their critical habitat.

Since the issuance of this permit will have "no effect" on any species or critical habitat, issuing this permit will not adversely affect proposed or listed species or critical habitat. Pursuant to ESA section 7's implementing regulations at 50 C.F.R. § 402.13(a), further formal consultation is not necessary and no further action is required.

f. National Historical Preservation Act (NHPA)

Section 106 of the NHPA requires the EPA to take into account the effect of any action undertaken by the EPA, such as issuing air construction permits, on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. EPA is required to consult with the state historical preservation officer (SHPO), the tribal historical preservation officer (THPO), and members of the public to receive and consider their views and concerns about historic preservation when making a final permit decision.

The facility is a portable plant which will be placed on existing aggregate sites. The company has also accepted enforceable limitations on throughput of the facility. Pitlik & Wick will also operate water spray and implement a fugitive dust control plan to minimize fugitive PM emissions from the facility.

For these reasons, EPA has determined the issuance of this minor NSR permit will have "no potential effect on historic properties." Pursuant to NHPA Section 106's implementing regulations at 36 C.F.R. § 800.3(a)(1), EPA has no further consultation obligation under Section 106 of the NHPA.